



Superfund Conferences

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The NIEHS Superfund Basic Research Program is a program of basic research and training grants directed toward understanding, assessing, and attenuating the adverse effects on human health resulting from exposure to hazardous substances in the environment. The program's goal is to provide an opportunity for researchers from the biomedical sciences, engineering, ecology, and geosciences to explore the scope of problems of uncontrolled hazardous waste and seek solutions. It is vital to the success of this program, as well as to the advancement of the science of hazardous waste management, to disseminate and use the knowledge gained from this research. To this end, NIEHS is active in sponsoring and conducting conferences and workshops.

As the NIEHS Superfund program is multidisciplinary in design, each conference and workshop strives to enhance the communication of scientists across disciplines. The program was an active participant in the three conferences summarized here, which were held in the late spring and summer of 1993. Each of the conferences drew attendees from a cross-section of the environmental research community.

Each of the meetings served as an exchange forum for scientists from different disciplines. Considering health effects and concerns at the combustion conference was a novel approach for many of the engineers attending the conference. The pediatric workshop was a productive gathering of scientists and health care professionals, where the diversity of backgrounds and experiences helped the participants define the complexities of environmental exposures to children. At the annual meeting of the Society of Geochemistry and Health, the topics of metals and the application of new technologies were addressed in conjunction with human health and environmental exposures.

Third International Congress on Toxic Combustion By-Products

The Third International Congress on Toxic Combustion By-Products: A Global Perspective was held in Cambridge, Massachusetts, June 14–16. The conference was hosted by the Massachusetts Institute of Technology and co-sponsored by the NIEHS Superfund Basic Research Program, the Coalition for Responsible Waste Incineration, the U.S. Environmental Protection Agency, the U.S.

Department of Energy, Sandia National Laboratory, Southern California Edison, the Industrial Technology Research Institute–Taiwan, the Northeast Hazardous Substance Research Center, and the University of Utah Department of Engineering.

The potential health and environmental impacts of the emissions of toxic combustion by-products from combustion/incineration processes continue to create regulatory attention and cause widespread public concerns. The purpose of the conference was to discuss, from a global perspective, the technical issues related to toxic combustion by-product formation, control, and impact on health.

More than 200 scientists from around the world came together to discuss basic and applied research in combustion engineering and environmental health research associated with combustion engineering. Approximately 50 posters were presented, primarily by graduate and post-doctoral candidates. Introductory plenary lectures were given by leaders in the field, including William Thilly, director of MIT's Center for Environmental Health Sciences, whose talk entitled "Health Effects of Exposures to Complex Mixtures: Models of Analysis" spotlighted the importance of integrating basic biomedical research with the engineering sciences. Sessions of interest included hazard assessment of organic chemicals, chaired by Steve Safe (Texas A&M) and Marilyn Fingerhut (NIOSH); hazard assessment of metals, chaired by Max Costa (New York University) and Gunnar Nordberg (University of Umea, Sweden); and hazard assessment of complex mixtures, chaired by Ray Yang (Colorado State University) and Ron Wyzga (Electric Power Research Institute).

The congress's approach to the problems of toxic combustion by-products was atypical in that its meeting agenda brought together biomedical/environmental health investigators and basic and applied engineering researchers. This meeting strategy encourages collaboration among researchers to address the public health concerns associated with combustion by-products.

Pediatric Environmental Health Research Workshop

On June 24–25, the NIEHS Superfund Basic Research Program hosted a Workshop on Pediatric Environmental Health at

Research Triangle Park, North Carolina. The purpose of the workshop was to stimulate research on the health effects of environmental exposures in children. This is a critical area because most health effects of environmental exposures are based on research on adults and animals; rarely are children's health and exposure evaluated. Further, children are not merely small adults but a unique population for environmental health risk assessment. Their risks may differ qualitatively and quantitatively from those of adults for a number of reasons, such as metabolism, pharmacokinetics, physiological factors, diet, and physical environment. Children's vulnerability to environmental insult, even at low exposures, is exemplified by the lead problem.

The thirty-one invited participants included experts in the fields of pediatrics, clinical studies, epidemiology, toxicology, and cellular and molecular biology. To encourage thoughtful discussion, the workshop was initiated with each participant addressing the current state of pediatric environmental health research.

After a stimulating and informative discussion, the group developed a research agenda. In identifying the magnitude of the problem, the areas of health effects and disease, developmental stages, and routes of exposure were explored in detail. The panel recommended that the issues be approached from a multidisciplinary perspective including molecular and cellular mechanism, animal and cellular models, hazard reduction and remediation, clinical and epidemiological studies, and incorporating cultural and psychosocial influences. Further, it is important to integrate pediatric clinical research and environmental health research to effectively evaluate a child's risk from exposures and therefore have an impact on his or her health and well-being. It was concluded that this research approach must also include effective communication of the basic and applied research to practical application. The transfer of this information must be disseminated to pediatricians, family physicians, and other health providers.

International Society for Environmental Geochemistry and Health

The 1993 annual meeting of the International Society for Environmental Geochemistry and Health was held in New

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Orleans, July 25–27. The goal of this society is to promote a multidisciplinary approach to research in the fields of geochemistry and health, to facilitate and expand communication among scientists within these disciplines, and to advance knowledge in this important scientific area. The 2-day meeting was attended by biomedical scientists, geochemists, engineers, and public health scientists. There were more than 100 attendees representing 8 countries. The NIEHS Superfund Basic Research Program, along with the International Association of Geochemistry and Cosmochemistry and the Tulane/Xavier Center for Bioenvironmental Research, co-sponsored the meeting.

Edward Fitzgerald from the State University of New York at Albany presented the keynote address describing results from an ongoing epidemiologic study evaluating the body burden of Mohawk women exposed to polychlorinated biphenyls. Fitzgerald demonstrated a correlation between the consumption of contaminated fish and elevated levels of PCBs in breast milk in these women. After advisories were released concerning this contamination, consumption of fish decreased, and the levels of PCBs dropped. Fitzgerald also commented

THIRD INTERNATIONAL CONGRESS ON TOXIC COMBUSTION BY-PRODUCTS

Steering Committee: Barry Dellinger (program chair), University of Dayton; Ronald Bastian, Focus Environmental, Inc.; A. D'Alessio, U. Frederico II; Ron Kagel, Dow Chemical; Catherine P. Koshland, University of California, Berkeley; C.C. Lee, U.S. EPA; Jack Longwell, Adel F. Sarofim, Massachusetts Institute of Technology; Richard S. Magee, New Jersey Institute of Technology; William A. Suk, National Institute of Environmental Health Sciences

PEDIATRIC ENVIRONMENTAL HEALTH RESEARCH WORKSHOP

Organizing Committee: Lynn Goldman, California Department of Health Services; William Suk, Penelope Manasco, Beth Anderson, National Institute of Environmental Health Sciences

INTERNATIONAL SOCIETY FOR ENVIRONMENTAL GEOCHEMISTRY AND HEALTH

Conference Chairs: Howard W. Mielke, Xavier University of Louisiana; Ann Anderson, Tulane University Medical Center

on the impact of the advisory on eating contaminated fish had on the community and the subsequent changes in their way of life.

Following the keynote address were nine sessions including a poster session. The sessions were designed to promote the interaction of a wide variety of expertise. The topics ranged from health and environmental assessment; implications of bio-

availability in risk assessment and management; soil, sediment, and groundwater pollution; trace substances in the urban environment; and risk communication. One specific area that the meeting highlighted was the need to more closely examine the role microorganisms and plants play in cycling metals and other contaminants.

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